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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,697	03/17/2000	Robert Beach	A32894-072797.0127	5223

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EXAMINER

HOANG, THAI D

ART UNIT

PAPER NUMBER

2667

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13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/528,697

Applicant(s)

BEACH, ROBERT

Examiner

Thai D Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 02/27/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-36 and 59-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-36 and 59-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6&9.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 28-36 and 59-69 are rejected under 35 U.S.C. 102(e) as being unpatentable over Panasik, US Patent No. 6,590,884 B1, in view of Belanger et al., US Patent No. 5,875,186.

1.1 Regarding claims 28 and 32, Panasik discloses a method and apparatus providing spatial diversity within an indoor network. The system disclosed by Panasik comprising a plurality of RF access points (APs) 18, 20 and 70, network interface 24, wherein the access points transmit a received data from the interface 24 through a backbone 22 to the mobile user 12, and transmits a received data from the mobile user 12 to the network interface 24 by using Ethernet protocol; figures 1-2 (a plurality of RF ports having at least one data interface, said RF ports being arranged to receive formatted data signals at said data interface and transmit corresponding RF data signals and arranged to receive RF data signals and provide corresponding formatted data signals.)

Also, in figures 4 and 5, Panasik discloses the system comprises a phase alignment block 122 wherein each data string is decoded 124 to reveal the specific

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multiple access point 70 from which the data string originated. Return data to the Network backbone 22 for other computers is transmitted via communications link 132. The purpose of the phase alignment block 122 is to provide a reference point for the data strings 118 and 120 input from access points 101-102; col. 5, line 51-col. 6, line 51. Moreover, Panasik teaches that each mobile user is assigned an access point based on the quality of the signal; col. 3, lines 52 – col. 4, line 2 (at least one cell controller, arranged to receive data signals from said wired network and to provide formatted data signals corresponding thereto to said data interface of said RF ports and to receive formatted data signals from said RF ports and to provide data signals corresponding thereto to said wired network, said cell controller controlling association of mobile units with one of said RF ports, providing formatted data signals for said mobile units to an associated RF port and receiving formatted data signals from said mobile unit from said associated RF port)

Panasik does not disclose the APs operate to receive ACK signal from the mobile user, and to cause APs to retransmit data to the mobile units if the ACK signal is not received. However, Belanger discloses a dynamic wireless local area network. Belanger discloses that if an ACK frame not being received by the source unit indicates that either the DATA frame was damaged or that the ACK frame itself was damaged. In either case, the source unit must retransmit the entire MAC protocol data unit (MPDU); col. 16, lines 23-27; col. 18, lines 11-45; col. 14, lines 48-50. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply ACK signal

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disclosed by Belanger into Panasik's system in order to improve quality of service in the network.

1.2 Regarding claims 29, 33-34 and 66, Panasik discloses that the system comprises a plurality of RF access points 18, 20 and 70, network interface 24, wherein the access points comprises a transceiver 104 for transmitting an received data from the interface 24 through a backbone 22 to the mobile user 12, and transmitting a received data from the mobile user 12 to the network interface 24 by using Ethernet protocol; fig.1-4; col. 4, lines 13-32, lines 46-54 (A method for transmitting signals having a wireless signals format using an RF port having an Ethernet interface, a data processor and an RF module, comprising providing an Ethernet data packet to said Ethernet interface, said Ethernet data packet encapsulating as data a data message having said wireless signal format, operating said data processor to provide said data message to said RF module, and operating said RF module to transmit said data message as an RF signal). Panasik does not disclose the APs operate to receive ACK signal from the mobile user, and to cause APs to retransmit data to the mobile units if the ACK signal is not received. However, Belanger discloses a dynamic wireless local area network. Belanger discloses that if an ACK frame not being received by the source unit indicates that either the DATA frame was damaged or that the ACK frame itself was damaged. In either case, the source unit must retransmit the entire MAC protocol data unit (MPDU); col. 16, lines 23-27; col. 18, lines 11-45; col. 14, lines 48-50. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply ACK signal disclosed by Belanger into Panasik's system for advantage cited above with respect to claim 28.

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1.3 Regarding claims 30, 35, 62 and 67, Panasik does not disclose that the system performs a cyclic redundancy computation on the data message and adding the result thereof to the data message. However, Belanger discloses the system uses CRC code for checking error; col. 8, line 7 and 52; col. 9, lines 7-8; col. 12, lines 11-12; col. 13, lines 30-31, 45-46, 61-62. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply CRC method into the system disclosed by Panasik in order to improve the quality of the data signal because the error could be quickly detected.

1.4 Regarding claims 31, 36, 63 and 68, the system disclosed by Panasik comprises a phase alignment block 122 for controlling RF access points; fig. 4-5; col. 3, lines 52 – col. 4, line 2 (comprising operating said data processor to control said radio module.)

1.5 Regarding claims 60 and 64, Panasik discloses a method and apparatus providing spatial diversity within an indoor network. The system disclosed by Panasik comprising a plurality of RF access points (APs) 18, 20 and 70, network interface 24, wherein the access points transmit a received data from the interface 24 through a backbone 22 to the mobile user 12, and transmits a received data from the mobile user 12 to the network interface 24 by using Ethernet protocol; figures 1-2 (a plurality of RF ports having at least one data interface, said RF ports being arranged to receive formatted data signals at said data interface and transmit corresponding RF data signals and arranged to receive RF data signals and provide corresponding formatted data signals.)

Also, in figures 4 and 5, Panasik discloses the system comprises a phase alignment block 122 wherein each data string is decoded 124 to reveal the specific multiple access point 70 from which the data string originated. Return data to the Network backbone 22 for other computers is transmitted via communications link 132. The purpose of the phase alignment block 122 is to provide a reference point for the data strings 118 and 120 input from access points 101-102; col. 5, line 51-col. 6, line 51. Moreover, Panasik teaches that each mobile user is assigned an access point based on the quality of the signal; col. 3, lines 52 – col. 4, line 2 (at least one cell controller, arranged to receive data signals from said wired network and to provide formatted data signals corresponding thereto to said data interface of said RF ports and to receive formatted data signals from said RF ports and to provide data signals corresponding thereto to said wired network, said cell controller controlling association of mobile units with one of said RF ports, providing formatted data signals for said mobile units to an associated RF port and receiving formatted data signals from said mobile unit from said associated RF port)

Panasik does not disclose the APs operate to receive ACK signal from the mobile user, and to cause APs to retransmit data to the mobile units if the ACK signal is not received. Also, Panasik does not explicitly disclose the system uses IEEE 802.11 standard. However, Belanger discloses that if an ACK frame not being received by the source unit indicates that either the DATA frame was damaged or that the ACK frame itself was damaged. In either case, the source unit must retransmit the entire MAC protocol data unit (MPDU); col. 16, lines 23-27; col. 18, lines 11-45; col. 14, lines 48-50.

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Furthermore, Belanger discloses that the IEEE 802.11 standard is applied in the system; col. 31, lines 59-61. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply ACK signal disclosed by Belanger into Panasik's system in order to improve quality of service in the network, and apply IEEE 802.11 standard into Panasik's system for economic reason, since it could be adapted with conventional Wireless LAN systems used in the networks.

1.6 Regarding claims 61 and 65, Panasik discloses that the system comprises a plurality of RF access points 18, 20 and 70, network interface 24, wherein the access points comprises a transceiver 104 for transmitting an received data from the interface 24 through a backbone 22 to the mobile user 12, and transmitting a received data from the mobile user 12 to the network interface 24 by using Ethernet protocol; fig.1-4; col. 4, lines 13-32, lines 46-54 (A method for transmitting signals having a wireless signals format using an RF port having an Ethernet interface, a data processor and an RF module, comprising providing an Ethernet data packet to said Ethernet interface, said Ethernet data packet encapsulating as data a data message having said wireless signal format, operating said data processor to provide said data message to said RF module, and operating said RF module to transmit said data message as an RF signal). Panasik does not disclose the APs operate to receive ACK signal from the mobile user, and to cause APs to retransmit data to the mobile units if the ACK signal is not received. Also, Panasik does not explicitly disclose the system uses IEEE 802.11 standard. However, Belanger discloses that if an ACK frame not being received by the source unit indicates that either the DATA frame was damaged or that the ACK frame itself was damaged. In

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either case, the source unit must retransmit the entire MAC protocol data unit (MPDU); col. 16, lines 23-27; col. 18, lines 11-45; col. 14, lines 48-50. Furthermore, Belanger discloses that the IEEE 802.11 standard is applied in the system; col. 31, lines 59-61. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply ACK signal disclosed by Belanger into Panasik's system for advantage cited above with respect to claim 28.

1.7 Regarding claims 59 and 69, Panasik discloses a method and apparatus providing spatial diversity within an indoor network. The system disclosed by Panasik comprising a plurality of RF access points (APs) 18, 20 and 70, network interface 24, wherein the access points transmit a received data from the interface 24 through a backbone 22 to the mobile user 12, and transmits a received data from the mobile user 12 to the network interface 24 by using Ethernet protocol; figures 1-2 (a plurality of RF ports having at least one data interface, said RF ports being arranged to receive formatted data signals at said data interface and transmit corresponding RF data signals and arranged to receive RF data signals and provide corresponding formatted data signals.)

Also, in figures 4 and 5, Panasik discloses the system comprises a phase alignment block 122 wherein each data string is decoded 124 to reveal the specific multiple access point 70 from which the data string originated. Return data to the Network backbone 22 for other computers is transmitted via communications link 132. The purpose of the phase alignment block 122 is to provide a reference point for the data strings 118 and 120 input from access points 101-102; col. 5, line 51-col. 6, line 51.

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Moreover, Panasik teaches that each mobile user is assigned an access point based on the quality of the signal; col. 3, lines 52 – col. 4, line 2 (at least one cell controller, arranged to receive data signals from said wired network and to provide formatted data signals corresponding thereto to said data interface of said RF ports and to receive formatted data signals from said RF ports and to provide data signals corresponding thereto to said wired network). Panasik does not disclose the system has a higher level MAC control functions including association and roaming functions, and a lower level MAC control functions including packet ACK functions. However, Belanger discloses the system uses MAC Protocol Data Unit (MPDU), which has a high level to control roaming of the mobile units (abstract; col. 2, lines 21-25, 46-48; col. 5, lines 12-22; col. 24, line 30-col. 29, line 67) and a lower level ACKs are use to improve the reliability of the wireless medium (col. 14, lines 45-47). However, Belanger discloses that if an ACK frame not being received by the source unit indicates that either the DATA frame was damaged or that the ACK frame itself was damaged. In either case, the source unit must retransmit the entire MAC protocol data unit (MPDU); col. 16, lines 23-27; col. 18, lines 11-45; col. 14, lines 48-50. Furthermore, Belanger discloses that the IEEE 802.11 standard is applied in the system; col. 31, lines 59-61. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply ACK signal disclosed by Belanger into Panasik's system in order to improve quality of service in the network, and apply IEEE 802.11 standard into Panasik's system for economic reason, since it could be adapted with conventional Wireless LAN systems used in the networks.

Response to Arguments

Applicant's arguments with respect to claims 28-36 and 59-69 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thai Hoang


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